

SUBJECT-

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TITLE

A MOUNTAIN PINE BEETLE INFESTATION ON THE
CARIBOU NATIONAL FOREST

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In August of 1944 a serious infestation of the mountain pine beetle in lodgepole pine was reported by the Forest Service to be present on a small area of the Caribou National Forest. Examination by Forest Service personnel of the vicinity of that infestation in September of 1944, revealed additional infested areas. A. L. Gibson of the Forest Insect Laboratory at Coeur d'Alene, Idaho spent the major part of the period from September 20 to 28 helping determine the boundaries and amount of infestation on some of these new areas and in scouting other drainages. The data which follows includes only the areas on which infestation was found subsequent to the original survey and report.

MOUNTAIN PINE BEETLE INFESTATION IN LODGEPOLE PINE
CARIBOU NATIONAL FOREST - 1944

Area	Acreage	Infested Trees		Total
		Per Acre	Total	
1 - Anderson Gulch-Bilk Creek	2,000	.34	687	
2 - S. Fk. of Bear Cr.-south end	1,600	2.95	4,720	
3 - " East side	1,000	.68	680	3,631
4 - " West side	700	.33	231	
5 - Corral Creek	16	14.75	235	
6 - Della Basin	5	8.00	40	
	5,321		6,593	

The estimate for Anderson Gulch-Bilk Creek is based on the combined data of the Forest Service and Bureau of Entomology. In addition to the enumerated areas, Forest Service personnel also report infestations on Jensen Creek and in the vicinity of Bitters Peak.

A detailed discussion of the areas follows:

Anderson Gulch-Bilk Creek

On these two drainages, in Sections 33, 34, 35 and 36 T. 3 S., R. 44 E. and in Sections 1, 2, 3, and 4 T. 4 S., R. 44 E. an area of 2,000 acres is estimated to contain 687 infested trees. The infestation occurs in the scattered mature trees in uneven-aged stands as well as in even-aged mature stands. In uneven-aged stands much of the

infestation is in windfalls and in single trees but in even-aged stands many groups of attacked trees were noted.

South End - South Fork of Bear Creek

This unit is located to the north of and adjoins the heavy infestation at the head of the Brockman-Clear Creek drainages which was reported by the Forest Service in August of 1944. It includes parts of Sections 22, 23, 25, 26 and 27 in T. 2 S., R. 43 E. and the western portions of Sections 19 and 30 T. 2 S., R. 44 E. Although the heaviest concentration of infested trees is in the southern end of this unit, there is considerable in the northern part. Parts of this area support an excellent stand of lodgepole pine. Many roads and, in general, easy grades, should make this unit comparatively easy to work.

East Side - South Fork of Bear Creek

This unit is on the east side of the South Fork of Bear Creek and adjoins the South End unit on its north side. Infestation is not so heavy in the more scattered pockets of timber characteristic of this area but when timbered acreage only is considered the concentration is 1.27 trees per acre. Infested trees seem quite well distributed over the entire area which extends to the junction of the South and West Forks. The Sections concerned are parts of 13, 14, 23, and 24 T. 2 S., R. 43 E.

West Side - South Fork of Bear Creek

This unit adjoins the preceding one on its west side and is separated from it by the South Fork of Bear Creek. An even lighter infestation than on the east side of the creek, was found in the scattered pockets of timber on this unit, there being but .435 attacked trees per acre on timbered acreage basis alone. The sections concerned are 14, 15, 22 and 23 T. 2 S., R. 43 E.

The mature lodgepole pine on the Bear Creek drainage is supporting a heavy infestation near its southern boundary, decreasing in intensity rapidly for the next mile to the north and then apparently of about equal concentration to the northern limits of the two adjoining units. Sections 25 and 26 T. 2 S., R. 43 E. support an excellent stand of mature, pure lodgepole pine. North of these sections pure, mature lodgepole pine is usually limited to small patches, its chief occurrence being mainly in mixture with other species or as scattered mature trees in young stands.

The East Side and West Side Units are not as accessible as the South End Unit. However, the improvement and extension of the road down the South Fork of Bear Creek for possibly one-half mile would place all parts of these units within working distance of a camp site at the end of the extended road and involve comparatively little cost.

Corral Creek

Infestation in this drainage is limited to the SW $\frac{1}{4}$ of Section 18 T. 2 S., R. 43 E. A narrow band of lodgepole pine close to and on the south side of the creek, contains the attacked trees. The lodgepole

pine area averages about 4 chains wide and is infested for about 40 chains up the creek. The infested strip is continuous except at the extreme eastern end where there is a small isolated patch separated from the main body by aspen. In spite of lodgepole pine extending for over 1½ miles up the creek, infestation is confined to the southeastern end and rapidly decreases in intensity as one progresses northwest. The Brockman Guard Station is about a mile from the south end on the infested area.

Della Basin

A concentration of infestation was found close to the road. Over the limited area inspected 25 trees were found and it is believed that not over 40 are present on the approximate 5 acres. The stand affected is overmature and the trees in general are large for that species.

In addition to the preceding area on which infestation was found, the following drainages were examined and found to contain either too light or no infestation.

Fall Creek

Supports only small patches of timber containing a few trees of a size susceptible to bark beetle attack. An occasional infested tree was noted. Examination limited to extreme headwaters of the drainage.

Bear Creek-West Fork

Same condition as in Fall Creek, to which it is adjacent.

Sawmill Creek

No infestation was found in this drainage although it is only slightly over a mile southwest of the heavily infested area in Cerral Creek. Most of the stand is Douglas fir, with a few lodgepole pine in mixture.

Barnes Creek

Considerable previous loss from the mountain pine beetle has occurred in the thrifty young stand on this drainage but no attacks originating during the current season were observed.

Trail Canyon

Only four attacked trees were noted in the thrifty young stand on this drainage. Trail Canyon is a part of the Spring Creek drainage.

Spring Creek

No infestation was observed on this drainage.

Herman Canyon

In spite of fairly large patches of lodgepole pine containing numerous trees of a size susceptible to mountain pine beetle attack, no infestation was noted in this area. This is all the more surprising when it is considered that some of the timber is growing under very

severe conditions. A heavily-used sheep driveway, averaging possibly 250 yards broad, is located in Herman Canyon, passing thru part of the timbered area. On the driveway the surface of the ground has been compacted for so long a time that the surface has been slightly lowered. In spite of such adverse growing conditions, which might be expected to inhibit tree growth sufficiently to make the affected trees susceptible to insect attack, no infestation was noted on the area.

Taylor Creek-Iowa Creek

Lodgepole pine on these drainages seems to be limited to reproduction and poles too small to be preferred host material for the mountain pine beetle.

Instructions in spotting and in treating mountain-pine-beetle-infested lodgepole pine with penetrating sprays, were given to Forest Supervisor Varner, Foremen Koontz and Armitage, and Project Manager Leavitt. Following spotting instruction and practice, demonstrations of technique of treating with penetrating sprays were given. Koontz, Armitage and Leavitt acquired some practice in the method of application of the spray. Water had to be substituted for the oil-base spray as the latter was not as yet available. Emphasis was placed on subordinating all other phases of treatment to the securing of adequate, thorough coverage of all mountain-pine-beetle infested bark surface. To that end verbal instruction and demonstration were supplemented by the following written instructions which were prepared in the field.

Treatment of Infested Trees

Logging Debris

Assumed that only material unfit for commercial use will be left.

Treat to limit of mountain pine beetle infestation in tops.

Stumps to be sprayed, burned, or peeled.

Infestation on Areas not Logged

Trees to be felled, trimmed to limit of infestation of mountain pine beetle and cut off at that point. If sprayed, treat top arc of log, turn enough so the adjoining arc can be similarly treated, repeating the process as often as necessary. Logs to be sprayed only from top side, never the sides or beneath. Spray until the treated surface glistens and the oil is ready to run off. Spraying trees cut after a rain will give good control but very wet, snow or ice-covered logs may not give good results.

Stumps to be sprayed.

In felling trees, do it so they can be most easily sprayed. On hillsides fell parallel to hill (with the contour), to facilitate spraying.

Spray to consist of 6 parts Diesel oil to one part of orthodichlorobenzene.

On areas to be logged, trees to be spotted prior to treating, on other areas the comparatively small patches of timber seem well adapted to make spotting and treating one operation. *(1)

An appended map gives the location of the infested areas.

*(1) This recommendation, while probably clear to the project personnel with whom it was discussed, would be more readily understood by others if it indicated that spotting and treating should be separate operations on areas where logging is planned, but could be combined into one operation elsewhere.

